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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,656	10/20/2003	Koichi Otsuki	241333US-4946-4947-2-CONT	4418

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EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,656

Applicant(s)

OTSUKI ET AL.

Examiner

LAM S NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-74 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 38, 50, 52, 55-57, 69, 71 and 74 is/are rejected.
- 7) ☒ Claim(s) 39-49, 51, 53-54, 58-68, 70, 72-73 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/947168.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/20/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 38, 50, 52, 55-57, 69, 71, and 74 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanome (US 6039427).

Referring to claims 38, 57, 74:

Kanome discloses a bi-directional printing apparatus that bi-directionally prints images on a print medium during forward and reverse main scanning passes in accordance with print image signals, the printing apparatus comprising:

- a print head configured to print dots at each pixel position on the print medium (FIG. 2, element 6);

- a main scanning drive mechanism configured to effect bi-directional main scanning by moving at least one selected from the print medium and the print head, a sub-scanning drive mechanism that effects sub-scanning by moving at least one selected from the print medium and the print head (FIG. 2);

- a head driver configured to supply drive signals to the print head to effect printing on the print medium (FIG. 7, element 46); and

- a controller configured to control bi-directional printing, the controller including a

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printing position adjuster that uses a bi-directional printing position adjustment value to reduce printing positional deviation arising between forward and reverse main scanning passes (FIG. 7 and FIG. 8),

wherein the printing position adjuster includes:

(1) a first memory configured to store a reference correction value for correcting printing positional deviation arising between forward and reverse main scanning passes with respect to specific reference dots formed by the print head (FIG. 8, step S7: a corresponding memory stores the adjustment value),

(11) a second memory configured to store a relative correction value prepared beforehand for correcting the reference correction value (FIG. 8, step S7: a corresponding memory stores the inclination adjustment value), and

(111) an adjustment value determination section configured to determine the adjustment value, the adjustment value determination section having at least a first adjustment mode in which the adjustment value is determined by correcting the reference correction value with the relative correction value (FIG. 8, step S7: the correction value includes the adjustment value and the inclination adjustment value).

Referring to claims 52, 71: wherein the reference correction value is determined according to correction information indicative of a preferred correction state that is selected from among test patterns of positional deviation printed using the reference dots (FIG. 8, step S2-S5).

Referring to claim 55: wherein the second memory is a non-volatile memory provided within the bi-directional printing apparatus (FIG. 8, step S7).

Referring to claim 56: wherein the second memory is attached to the print head so that the print head with the second memory is detachably attached to the bi-directional printing apparatus (FIG. 7, element 42).

Referring to claims 50, 69: wherein the adjustment value determination section has a second adjustment mode in which the reference correction value is used as the adjustment value (column 10, line 1-6: “it is a possible alternative that only reciprocal printing position is adjusted”).

Allowable Subject Matter

2. Claims 39-49, 51, 53-54, 58-68, 70, 72-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claims 39, 58: The most pertinent prior art fails to disclose wherein the relative correction value is a correction value for correcting relative printing positional deviation of another row against the reference row. Therefore, the claimed invention is not disclosed by the prior art.

Referring to claims 44, 63: The most pertinent prior art fails to disclose wherein the reference dots are one type of dots selected from among the N types of dots and the adjustment value is applied in common to the N types of dots in the first adjustment mode. Therefore, the claimed invention is not disclosed by the prior art.

Referring to claims 51, 70: The most pertinent prior art fails to disclose wherein the adjustment value determination section effects correction of the printing positional deviation in accordance with the first adjustment mode during color printing, and effects correction of the

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printing deviation in accordance with the second adjustment mode during monochrome printing.

Therefore, the claimed invention is not disclosed by the prior art.

Referring to claims 53, 72: The most pertinent prior art fails to disclose wherein the bi-directional apparatus performs main scanning at a plurality of main scanning velocities, and the second memory stores the relative correction values that are applied independently to the plurality of main scanning velocities. Therefore, the claimed invention is not disclosed by the prior art.

Referring to claims 54, 73: The most pertinent prior art fails to disclose wherein the bi-directional printing apparatus emits ink in a plurality of dot emission modes of mutually different ink emission velocities, and the second memory stores the relative correction values that are applied independently to the plurality of dot emission modes. Therefore, the claimed invention is not disclosed by the prior art.

Referring to claims 40-43, 45-49, 59-62, 64-68: They are allowable because they depend directly/indirectly on claim 39, 44, 58, or 63.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN
March 23, 2004


HAI PHAM
PRIMARY EXAMINER